~~Bob Stewart~~
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STATE OF MISSOURI
Mel Carnahan, Governor • David A. Shorr, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176 Jefferson City, MO 65102-0176

March 20, 1997

Mr. Thomas S. Sanicola
Environmental Engineer
Modine Manufacturing Company
1500 DeKoven Avenue
Racine, WI 53403

RE: Modine Heat Transfer, Inc., Camdenton, Missouri
EPA ID #: MOD062439351

Dear Mr. Sanicola:

The Missouri Department of Natural Resources' (MDNR) Hazardous Waste Program (HWP) has completed a supplementary review of available information for the Modine Heat Transfer (MHT), Inc., Camdenton, Missouri, facility. This review was designed to quantify the general nature/scope and agency expectations concerning additional groundwater and corrective action investigations that will be required at the facility. The HWP has determined that several areas at the facility require further investigation. The Solid Waste Management Unit (SWMU) designations used below correspond to those presented in the Final Environmental Priorities Initiative/Preliminary Assessment (EPI/PA) report dated September 1992, as prepared by Jacobs Engineering Group (JEG), Inc., on behalf of the U.S. Environmental Protection Agency (EPA) Region VII.

Regulatory Authority

The MDNR's position is that, as the current owner/operator of the facility, MHT is responsible for RCRA corrective action both on and off site. Within the context of RCRA, the terms owner and operator are defined in the present tense rather than the past tense which serves to exclude past owners and operators of a facility from RCRA responsibility.

The MDNR currently has the authority to formally pursue corrective action at the MHT facility via at least two mechanisms. These include a post-closure permit issued pursuant to Missouri's Hazardous Waste Management Law (§260.375 and

§260.395, RSMo) or a state corrective action order pursuant to §260.375 and/or §260.420, RSMo. As indicated in previous correspondence and discussions with MHT, the MDNR would prefer to use a less formal, cooperative corrective action approach at the Camdenton facility.

MDNR's authority to require corrective action at off-site SWMUs is rooted in the above-referenced sections of Missouri's Hazardous Waste Management Law and the associated state hazardous waste regulations. The federal regulation at 40 CFR 264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), addresses corrective action for off-site SWMUs. This regulation requires that corrective action be taken by the facility owner or operator beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates that, despite the owner/operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. Further, 40 CFR 264.101(c) stipulates that the owner/operator is not relieved of any responsibility to cleanup a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases are determined on a case-by-case basis.

The former Hulett lagoon is a SWMU and, though not on the MHT property, was "physically connected" to the facility by a dedicated pipeline originating on the facility property. Hence, the former lagoon was contiguous to, and thus part of the facility, by virtue of the "physical connection." In addition, use and control of the dedicated pipeline and former lagoon were integral to the overall purpose of the facility manufacturing operations. It does no violence to the language of Missouri's Hazardous Waste Management Law and is consistent with RCRA §3004(u) to consider off-site portions of the pipeline and the former lagoon part of the facility. This is consistent with the definition of facility for corrective action as contained in 40 CFR 260.10, as incorporated by reference in 10 CSR 25-3.260(1). In addition, if the scope of a "facility" were coterminous with the right to exclude (as MHT suggests), a permittee could easily circumvent certain state and federal statutory requirements by deliberately arranging to manage its solid waste on contiguous land owned and shared by others. This reading would undermine the broad remedial purpose of Missouri's Hazardous Waste Management Law and RCRA §3004(u) and is inconsistent with the expansive meaning of "facility."

MHT's ability to address off-site SWMUs is supported by MHT's recent sampling investigation at the former Hulett lagoon. MHT was apparently successful in obtaining access to this SWMU for

the purpose of sampling. Hence, MHT cannot show denial of access pursuant to 40 CFR 264.101(c). MHT has not asserted nor does the record show that lack of legal title to the off-site areas in question will impede efforts to investigate and/or remediate any releases related thereto.

Additional Groundwater Investigations

During the February 5, 1997, meeting with MHT, the HWP provided guidance on performing additional groundwater investigations and monitoring well locations. These investigations and monitoring are warranted given applicable RCRA requirements and considering MHT's proximity to approximately 130 private and public water wells and the related issue of human health protection. Based on current information, it is unclear whether releases of hazardous constituents from the MHT facility are a threat to human health or the environment.

As indicated during the recent meeting, it would be appropriate to install at least one monitoring well between the former Hulett lagoon and the MHT facility. This well could be used to determine whether releases from the lagoon have contributed to on-site groundwater contamination as suggested by MHT. In addition, repair and/or replacement of MW-3 and MW-4 is indicated as these wells have been dry on several occasions.

The existing monitoring wells were constructed solely to assess the presence or absence of groundwater contamination. The long, open-hole completions were used to maximize the possibility of detection of groundwater contamination, hence, the relatively low levels of contamination observed to date may not be representative due to dilution resulting from water entering the wells at multiple locations. In general, the existing monitoring wells have achieved their objective of demonstrating the presence or absence of groundwater contamination. It is not clear, however, which portion(s) of the monitored zone are actually contributing contaminants or transient groundwater flow in the unsaturated zone to the wells.

Installation of at least three additional on-site monitoring wells with shorter screen lengths (i.e., perhaps 20 to 30 feet) appears necessary to isolate and monitor the impacted zones. It would be advisable to try and determine which, if any, portions of the unsaturated zone are contributing flow to the wells in a transient manner in response to precipitation or whether such flow is entirely "at depth." It is recommended that these determinations be made prior to finalizing plans for the installation of additional monitoring wells. This could be

accomplished by performing an appropriate downwell survey (e.g., downhole camera) following a significant precipitation event.

In addition to the "vertical" determinations above, MHT's work plan should consider "horizontal" placement of the additional monitoring wells downgradient of the areas of greatest potential concern. The SWMUs discussed below and any additional contaminant source-related information (i.e., soil sampling and analysis results) collected prior to well installation should be considered in the final placement of these monitoring wells. During well installation, MHT should make a concerted effort to collect additional relevant information and data related to the physical properties of the subsurface at each location. This would include aquifer testing and reasonably detailed stratigraphic analysis.

The investigation work plan should contain a map with the locations of both private and public wells within a one-half mile radius of the facility. A table should be presented which distinguishes the use of each identified well (i.e., human consumption, animal watering, industrial use, etc.). Although not specifically required at the current time, MHT should be prepared to sample appropriate wells if it appears, based on information collected in the immediate facility vicinity, that groundwater contamination could be reaching these wells.

SWMU 1 - Hulett Lagoon

The property where SWMU 1 is situated is currently owned by the City of Camdenton and is located off site approximately one-fourth mile to the northeast of the MHT facility. SWMU 1 received wastes, including untreated wastewater containing volatile organic compounds, cyanide and various metals, and storm water from the facility by dedicated pipe from 1967 until 1986. In addition to discharges from the facility the lagoon received some local domestic sewage; however, the only industrial source contributing to the lagoon was the facility.

Closure of Hulett lagoon was completed in 1988 by the City of Camdenton pursuant to an Industrial Development Grant overseen by the MDNR's Water Pollution Control Program (WPCP). The lagoon closure did not, nor was it designed to, meet the substantive requirements of RCRA relative to corrective action. For example, the universe of hazardous constituents and constituent concentrations present in the lagoon fluids, sludges, or other related media was not established. Sampling and analysis efforts were limited to metals and other "generic" parameters (e.g., total solids). No sampling and analysis for volatile organic

compounds (VOCs) or cyanide was performed despite the origin of the untreated wastewater and historical information indicating the presence of VOCs in the wastewater and use of cyanide solutions. The horizontal and vertical extent and rate of migration of contamination was not determined as evidenced by the results of MHT's recent analysis of shallow soil samples obtained beneath the former lagoon indicating TCE and chloroform contamination. In addition, there was no public participation associated with the lagoon closure process as would be required under RCRA.

As a result of recent investigations and sampling, MHT has opined that the former lagoon is the source of MHT's on-site groundwater contamination. There is obvious TCE contamination in the soils at the former lagoon as there is on site at other SWMUs; however, there is not convincing evidence that the former lagoon is necessarily the source, or even a source, of the groundwater contamination. Substantially more site-specific investigation will be required to definitively confirm or deny the alleged linkage. This linkage, or lack thereof, is largely irrelevant from an overall corrective action standpoint. A release at SWMU 1 is evident and further investigation is warranted to determine the nature and scope of this release including any alleged relationship to the on-site groundwater problem.

Given the nature of the untreated wastewater historically discharged to the former lagoon and the site-specific chemical analyses performed to date, further sampling and analysis efforts in the vicinity of SWMU 1 to determine the nature and extent of contamination should include volatiles (EPA SW846 Method 8260a), cyanide (EPA SW846 Method 9010a), and metals (EPA SW846 7000 Series) including total aluminum, copper, chromium, nickel, zinc, and hexavalent chromium. Specific conductance and pH may also be useful contamination indicator parameters with respect to the lagoon investigation.

SWMU 2 - Mud Pits

Four mud pits (SWMU 2) are described in detail in JEG's EPI/PA report. The mud pits and associated piping are no longer in use. The EPI/PA report indicates mud pit service dates of 1967 through 1986. The MDNR considers SWMU 2 to include both the mud pits and the associated on- and off-site piping. The EPI/PA report indicates that the northernmost two mud pits no longer exist and were located beneath what is now the pretreatment/drum storage area (SWMU 32). The manner in which these two pits were decommissioned is unknown. The two remaining mud pits are inactive and are reportedly covered by plywood presumably for

safety reasons and to prevent the infiltration of precipitation. Steps, if any, to decommission the dedicated pipeline running from the mud pits to Hulett lagoon (SWMU 1) are unknown.

Given the nature of the untreated wastewater historically discharged to the former lagoon and the site-specific chemical analyses performed to date, further sampling and analysis efforts in the vicinity of SWMU 2 to determine the nature and extent of contamination should include volatiles (EPA SW846 Method 8260a), cyanide (EPA SW846 Method 9010a), and metals (EPA SW846 7000 Series) including total aluminum, copper, chromium, nickel, zinc, and hexavalent chromium. Specific conductance and pH may also be good contamination indicator parameters with respect to investigation of SWMU 2.

Sampling in and around the mud pits and associated piping is necessary to confirm/deny the presence of associated releases and the corresponding need for further investigation and/or remediation. Sampling in and around the mud pits and piping in close proximity to the building should be integrated with sampling for other nearby SWMUs as described below. Sampling along the pipeline from the building to the former lagoon should be handled separately. Sampling at regular intervals at or just below the depth of the bottom of the pipeline is recommended.

SWMU 4 - Tank and Drum Storage Area Number 1

The "Area 1" title assigned to SWMU 4, as presented in the EPI/PA report, is a bit misleading relative to the recent closure activities. SWMU 4/Area Number 1 does not refer to the container storage area awaiting certification of closure. SWMU 4 refers to the former drum storage area located approximately 80 feet west of the mechanical room on the west side of the building that was utilized from 1972-1977. This area was graded and paved as an employee parking lot in 1983. Closure activities for this unit were not approved by MDNR. Releases of VOCs were identified in the vicinity of SWMU 4 by LAW Environmental (LAW), Inc. as part of an Environmental Site Assessment (ESA) completed in November 1991. Further confirmation of these releases was provided by MHT as part of later investigations conducted as part of the container storage area closure. Soil concentrations of 204,000 ug/kg TCE and substantial evidence of releases of other VOCs were documented as part of the ESA and MHT's investigations. The source(s), horizontal and vertical extent and any relationship of these releases to the groundwater contamination beneath the facility are currently unknown. Given the hazardous waste storage activities conducted at this unit and the analytical

results for soil samples obtained in the vicinity, further investigation is warranted and should include volatiles (EPA SW846 Method 8260a).

SWMU 5 - Tank and Drum Storage Area Number 2

The EPI/PA report recommends further investigation of SWMU 5, presumably due to evidence of pump seal leakage and/or tank overflow within the containment area. This area was reportedly operated from 1983 to 1985 and is now closed. The former location of this unit is beneath the area now covered by the wastewater pretreatment/drum storage area. Investigation of the mud pits associated with SWMU 2 also covers this area and so should provide adequate coverage. The contaminants of concern at SWMU 5 are volatiles (EPA SW846 Method 8260a).

SWMU 31 - Tank and Drum Storage Area Number 3

SWMU 31 is a former drum storage area which is located beneath the southernmost building extension constructed in 1983. This drum storage area was in operation from 1979 to 1983 and was removed during the 1983 building expansion. Closure activities for this unit are unknown and were not approved by MDNR. Releases of TCE, TCA, and other VOCs were identified in this area as part of LAW's ESA. Soil concentrations of 200,000 ug/kg 1,1,1-TCA, 3000 ug/kg TCE and 2100+ ug/kg of other VOCs were documented as part of the ESA. At the time of the ESA, perched groundwater (or more likely water in the coarse-grained subgrade material for the building foundation), flowed from two of the borings installed through the building foundation. Again, the source(s), horizontal and vertical extent and any relationship of these releases to the deeper groundwater contamination beneath the facility are currently unknown. Given the hazardous waste storage activities conducted at this unit and the analytical results for soil samples obtained in the vicinity, further investigation is warranted and should include volatiles (EPA SW846 Method 8260a).

General Comments

The HWP's review has reinforced previous observations that it may be difficult to completely segregate releases related to the container storage area undergoing RCRA closure from those potentially associated with other nearby SWMUs. Given this, a site-wide, as opposed to SWMU-specific investigation approach is recommended. The investigation should be designed to establish the horizontal perimeter of contamination. Based on available information, the area encompassed by this perimeter appears to be

roughly a 180° arc extending from the easternmost wall of the manufacturing building on both the north and south and extending westward beyond a line established by MW-3, B-16, MW-1, and MW-4. The investigation should also be designed to establish the vertical perimeter of contamination within the horizontal extent boundary. Investigation of off-site SWMUs, including the former lagoon and portions of the dedicated pipeline, would proceed semi-independently of the broader on-site investigation.

MHT is reminded that agency acceptance of final closure and release of financial assurance for the closed container storage area **does not** constitute a final release from RCRA interim status. RCRA corrective action requirements will have to be satisfied before a release from RCRA interim status can occur.

The HWP has been advised by the MDNR's WPCP that MHT needs to contact Mr. Tim Stallman of the WPCP, (573) 751-1300, concerning the Camdenton facility's storm water permit (MOR203055) as related to the investigation activities outlined herein.

If you have any questions regarding concerning this letter or the associated corrective action expectations, please contact me or Gene Williams, P.E., of the HWP's Enforcement Section at (573) 751-3176.

Sincerely,

HAZARDOUS WASTE PROGRAM

Richard A. Nussbaum, P.E., R.G.
Chief, Corrective Action Unit
Permits Section

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c: Mr. Tim Stallman, WPCP, MDNR
Bob Stewart, P.E., U.S. EPA Region VII ✓
MDNR, Jefferson City Regional Office